

Using SAR data for wet snow monitoring

Abstract

This paper focuses on an existing method of snow information retrieval by means of satellite SAR data. The method was first presented by Malnes and Guneriusen (2002), and has been proven to be capable of sub-pixel classification of wet snow. It is also able to classify dry snow pixels. The classification is based on change detection, so a snow-free reference image is required. Some flaws in this algorithm have been discovered during the work on this paper and are discussed, as well as a possible solution is suggested. Because this method is incapable of classifying pixels containing water bodies, I have proposed an algorithm that can classify snow cover on lakes to enhance its capabilities. Also, a way to improve the wet snow cover classification by means of optical data was suggested.

Keywords: SAR, snow cover, remote sensing, wet snow